

REMARKS

Claims 1-3 are all the claims pending in the application.

Claims 1 and 3 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the admitted prior art FIG. 1 in view of Kawai (US 6,072,997, hereafter "the '997 patent"). Also, claims 1 and 3 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the admitted prior art FIG. 1 in view of Kawai (US 6,038,268), hereafter "the '268 patent").

Claim 2 is objected to as being dependent upon a rejected based claim, but would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims.

The '997 patent relates to a frequency discriminator for a direct conversion receiver. FIG. 1 of the reference shows an example of a frequency discriminator. As shown in FIG. 1, the frequency discriminator includes an input terminal 1, a local carrier generator 2, a 90° phase shifter 3, multipliers 4 and 5, low pass filters 6 and 7, amplifiers with automatic gain control 8 and 9, analog to digital converters 10 and 11, differentiators 12 and 13, an adder 16, a read only memory (ROM) 18, and a demodulation output terminal 19.

The '268 patent relates to a circuit constructing technique for direct conversion reception in a signal radio receiver. FIG. 1 of the reference shows a direct conversion FSK receiver according to one embodiment of the invention. The receiver includes low pass filters 40 and 42, differentiators 44 and 48, multipliers 46 and 50, and subtractor 52.

Applicant submits that the prior art fails to teach or suggest all of the limitations of claims 1 and 3 of the present invention. The Examiner asserts that the combination of admitted prior art

RESPONSE UNDER 37 C.F.R. § 1.111
U. S. Application No. 09/738,900

FIG. 1 and the '997 patent disclose the limitations of claims 1 and 3, but admits that FIG. 1 does not disclose an automatic gain control. However, the Examiner asserts that the '997 patent discloses this feature of the claims. Applicant submits that neither admitted prior art FIG. 1 nor the '997 patent teach or suggest the detector, as claimed in claims 1 and 3 of the present invention. With regard to this feature of the claims, Applicant notes that the Examiner has not explicitly asserted that either the admitted prior art FIG. 1 or the '997 patent disclose this feature of the claims.

Claims 1 and 3 recite a detector for detecting a gain control level corresponding to a difference obtained by comparing levels of the baseband signals of the two channels output by the filter with a predetermined level. Although the amplifiers 8 and 9 of the '997 patent are disclosed as having automatic gain control, the '997 patent does not disclose or suggest the claimed detector. As shown in FIG. 1 of the '997 patent, each of the amplifiers 8 and 9 has its own output fed back to the amplifier. The '997 patent does not explicitly disclose a detector. Moreover, there is no teaching or suggestion of detecting a gain control level corresponding to a difference obtained by comparing levels of the baseband signals of the two channels output by the filter with a predetermined level. By contrast, as noted above, each of the amplifiers 8 and 9 has its own output fed back to the amplifier. Thus, the prior art fails to teach or suggest the detector claimed in claims 1 and 3 of the present invention. Therefore, claims 1 and 3 are allowable over the prior art.

Also, the prior art fails to teach or suggest the AGC claimed in claims 1 and 3. As recited in claims 1 and 3, the AGC controls gains of the baseband signals for each of the two channels output from the down mixer according to the gain control level detected by the detector. Since

RESPONSE UNDER 37 C.F.R. § 1.111
U. S. Application No. 09/738,900

the prior art fails disclose the claimed detector, the prior art also fails to teach or suggest the claimed AGC, which recites the gain control level detected by the detector. Hence, claims 1 and 3 are allowable over the prior art for this additional reason.


For the rejections of claims 1 and 3 over the admitted prior art FIG. 1 in view of the '269 patent, Applicant submits that claims 1 and 3 are allowable for reasons analogous to those presented above with respect to the '997 patent. In other words, the '268 patent, like the admitted prior art FIG. 1 and the '997 patent, fails to teach or suggest the detector claimed in claims 1 and 3 of the present invention. That is, the '268 patent fails to disclose a detector for detecting a gain control level corresponding to a difference obtained by comparing levels of the baseband signals of the two channels output by the filter with a predetermined level. Furthermore, the Examiner has not even asserted that the '268 patent discloses the detector claimed in claims 1 and 3. Therefore, claims 1 and 3 are allowable over the combination of admitted prior art FIG. 1 and the '268 patent.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

RESPONSE UNDER 37 C.F.R. § 1.111
U. S. Application No. 09/738,900

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Cameron W. Beddard
Registration No. 46,545

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

23373

CUSTOMER NUMBER

Date: October 28, 2003